Purpose: To explore the path of light as it travels from one transparent medium to another


| $\angle i$ | $x R$ | $\sin \alpha i$ | $\sin \alpha R$ | $\frac{\sin 4 i}{\sin 4 R}$ |
| :---: | :---: | :---: | :---: | :---: |
| $0^{\circ}$ |  |  |  |  |
| $10^{\circ}$ |  |  |  |  |
| $20^{\circ}$ |  |  |  |  |
| $30^{\circ}$ |  |  |  |  |
| $40^{\circ}$ |  |  |  |  |
| $50^{\circ}$ |  |  |  |  |
| $60^{\circ}$ |  |  |  |  |

## Questions:

1. Compare the angle of incidence to the angle of refraction. (i.e. smaller, same, larger)
2. Did the refracted ray bend toward the normal or away from the normal?
3. What do your results tell you about the speed of light in acrylic compared to the speed of light in air?
4. What was your average index of refraction for a light ray through the acrylic semicircle?
